

ROBERT SPEAR, ET AL. CONCLUDED. NOVEMBER 29, 1893.

HERRING.

Commenced fishing when he was 10 years old, and he is 36 years old now.

25 years ago the most of the weirs were around Lubec Harrows; also quite a number along Campobello from the Pool down through the Harrows. The herring come on from the Harrows to the Pool. Good many weirs on Deer Island and the north shore. They began to build so many weirs down there about 13 years ago. That is on Deer Island and the north shore. It is since the sardine business sprang up. This also includes St. Andrews Bay. In Lubec Harrows there were just as many weirs then as there has been since, and probably more than now.

The fish began to be scarce in Lubec Harrows before they built the weirs up on the Canadian shore. These weirs have not taken the fish away from there. The weirs up at Deer Island and north shore are in deeper water. He thinks these outside weirs at Deer Island and that region have hurt the weirs in the river. The schools would not get broken up and they played right up this river in

years gone by. Has seen Treats weir with 250 hogsheads in it. It was a large weir. He used to have big tanks that he would dip the herring out of the weir into.

They commenced putting weirs up the St. Croix about the same time that they did at Deer Island. Up the East Bay and Pembroke River they have had weirs 45 years at least, but they have increased the number of them recently.

Gill-netting is an old method. It has been used on the North Shore, Grand Manan, Nova Scotia shore and about everywhere. It was used principally for the winter herring. Not used as much during the summer as during the winter. Thinks his father was the first man that ever sold any frozen herring here. He caught them in Broad Cove with the gill-net. That is from 25 to 30 years ago. The winter fishery gave out 4 years ago. Do not use the gill-nets here very much in the summer.

Seines have never been used here to amount to anything. Have never used a purse seine for herring down here.

The driving of herring has not been carried on much this last 7 or 8 years, until this fall. There was quite a lot of it done this fall down at Lubec.

Narrows and at Herring Cove. The quantity of herring from driving does not amount to much as compared with the weirs, and they are used mostly as sardine herring. The weirs take $\frac{9}{10}$ of all the herring caught about here, and possibly more.

Take the gear that they used to have, and they caught a great many more herring according to it than they do now. Now there are as many fish caught, but they have three times as many weirs to catch them in.

Thinks, as a whole, the herring are scarcer. You take it 20 years ago; if they had the weirs and gear for catching that they have now, look what they would have caught.

Old people from Grand Manan state that there never was known so many herring on the ripplings as there were last year. The winter herring are here now. They have stopped the Yankee fishermen from catching them in English waters, and it was the Yankees that found out where they were. There were just as many herring last year on the shore in deep water as there ever were.

Before the sardine business began they smoked herring and sold them frozen, and sold them in pickle, and they used them for oil and pomace. The

The smallest size herring marketed were about 6 inch fish. They smoked smaller herring than they pickled or dressed. Everybody caught for pomace. Herring were worth a hoghead about \$1.50, delivered to you. Since that time the sardine factories have taken all that they wanted. They have taken the small herring mostly, and the large herring they have used in the same way that they did before.

The proportion of herring taken and used for sardines is all of $\frac{3}{4}$ of the whole amount.

All the herring caught between Cutler and Beaver Harbor come to this market. Eastport and Lubec are practically the market for all of that region, even those that are smoked being shipped this way. Grand Manan sends the heft of these right direct to other markets; perhaps a quarter of them come here.

The spawning grounds of herring are at Grand Manan and the southern end of Machias Bay. Does not think St. Andrews Bay is a spawning ground. The herring spawn at Grand Manan from the last of August through September and up into October; September being the principal month; and has seen them spawn there the first part of August. Ripe herring are thin and poor, but they use a good many. They

would be used for smoking and barreling. The herring that they get up at the head of the Bay of Fundy are mostly all spawned.

Fish that feed on herring spawn are haddock, cod-fish, and most all fish. Has caught cod-fish around the southern head, inshore, with herring spawn in them.

The only fishing that ^{could} be carried on on the spawning grounds would be gill-nets.

The law at Grand Manan stopping the fishing on the spawning grounds for a certain time is a good law. The best protection that could be given to herring is protecting the fish on the spawning grounds. Sometimes in the night the fishermen get in and steal a few for bait, but there is not much fishing done there. They are not allowed to take them for bait or any purpose.

At Starboard Creek they catch a great amount of spawn herring. Was down at Machias Bay and got a vessel load of spawn herring in July. They spawn around there wherever the bottom is suitable. The bait they get there during the summer is 3 inches long. Get some now that length. Thinks these were spawned last fall.

There are spawning grounds on the Nova Scotia

shore where they spawn the last of April and the first of May.

Generally in the spring they get those small brit the first herring they get, from $2\frac{1}{2}$ to 3 inches long.

(My opinion is those fish come in and spawn according to the tide. If the tide is out there will be a school of herring come in and spawn, and perhaps then you will not get any for a week on those spawning grounds, and then there will be another school come in; that might account for the different sizes". Bystander).

Those little brit in the spring you can just see the eye, and in a month or so you can notice they are quite little herring.

At different seasons the herring strike different parts of the shore. They come in generally by Deer Island way. At times some come in through Lubec Narrows, but not very often. Hardly ever get any down there in the spring. The fall is mostly when they get their fish down there. Would expect to find the fish at Deer Island before you find them at Lubec Narrows. They usually strike on this shore before they strike Grand Manan. On Perry shore the first small herring are taken in the

spring.

There are so many runs of herring that you cannot tell how many runs there are. There are no distinct runs. They generally figure on from about the last of July or first of August for the regular schools to come. That is the summer school, but this year there was not much of a school, but last year they struck in the last of July, and they hung right along, and had as many as we wanted. The first fish we get are small, but after about the first of August they generally get about the regular size. They get the small ones generally from April to June. These are the brit and are good for nothing. Do not get fish suitable for the sardine factories before July, but might get a few before that time, but do not have any regular school that are fit for sardines. They used to get them all winter when they first started the factories, but not now. They cannot run the factories after the 15th of December, except certain size fish, which they can put up.

They can seine the herring in some places. They get on the shores in big schools sometimes.

The larger fish that run into the weirs must be pretty big schools. Sometimes the weirs fill

quickly and sometimes they go in slowly. Do not think herring hang together as mackerel do unless they are playing. Have seen every weir in White Head Passage solid with them.

Mr. Spear thinks there are not as many herring as there used to be.

Mr. Philip Walton thinks they are just as abundant as they used to be. Last year they began to slack off a little and this year were not as plenty as they were last, but three years ago there was abundance^d of them, and they are just as likely to be as abundant again next year, but might not for two or three years. Have known them to be slack sometimes for one year; sometimes for 2 or 3 years, when they have been scarce compared with other years. Saw this scarcity one time about 18 years ago, when there were not enough herring caught around here for bait.

Mr. Lewis D. Clark's opinion is that there are just as many herring today as there ever were in these waters, but some years they go somewhere else. He is 55 years old; was born in Lubec. When he was a boy they used to ~~xxx~~ row all night to get bait, little herring, but could not get them. He has built weirs and fished weirs from Lincoln's Point

down to(Anchient(?)) Harbor, Portland, and finds that it is this way with the whole coast. Some years would be plenty; Some years would not be any. Has an idea that there are just as many herring now in these eastern waters as there ever were, but some years they play differently.

The herring swim sometimes on top of the water and sometimes down deep. They come to the surface when they are feeding. Hardly ever come to the surface when it is stormy. They are taken by the gill-nets from 2 to 20 fathoms depth. That is mostly in the winter. In the summer the fishing can be done in shallow water.

They are taken off shore in gill-nets all the way from $\frac{1}{8}$ of a mile to 3 and 4 miles.

They could use purse seines to advantage, but the herring do not play thick enough. The trouble would be to find the herring. Have seen them at times when they were thick enough to seine, but not very often.

The driving of herring does not hurt the fish for eating. But the harm the kerosine oil does the fish, they use this cotton batting to drive the fish, and when the boats are through using it they throw it overboard, and it sinks down and the oil will work up from it for months. The pil on

the surface soon disappears. They use just common cotton batting. It sinks right to the bottom. Mr. Spear would not want to take herring that are caught by driving. The way the kerosine gets into the herring, they spill it in the boat among the fish. Mr. Spear has seen them have so much kerosine in them that you could not sell them. They cannot get any oil as cheap as kerosine, and that is the reason they use it. Birch bark will not burn as long as kerosine. Mr. Spear thinks the state law prohibits the use of kerosine.

The herring go into the weirs both on the flood and ebb tides, but generally on the ebb tide. It is all owing to the kind of place the weirs are built in. Some places they fish on the ebb tide and some altogether on the flood. When the fish go in on the ebb tide they would have to seine their weir at low water. Where they go in on the flood tide sometimes they have to stop the mouth of the weir to keep the fish in. In the flood tide weirs around here they used to have a door to lower down. Treats Island weir was a flood tide weir. They always did use doors on Treats Island to let out the fish when they did not want to keep them. And they do also at Grand Manan. Thinks they are obliged to do it there.

MR. A. J. SMALL, EASTPORT, ME.--INTERVIEWED BY
RICHARD RATHBUN, NOVEMBER 29, 1893.

Of North Lubec. Has been around herring ever since he was a boy, about 25 years ago. Has been engaged in the sardine business 4 years.

About 25 years ago the weirs were abundant in Lubec Narrows and up the shore clear to the upper end of North Lubec, as far as Goves Point. Used to be weirs on what we call Birch Point in the Cobscook River. That is the furthest weir up that he knew anything about at that time. There used to be quite a number of weirs over in the Pool on Campobello, probably half a dozen. Used to be 2 weirs down between Friars Head and Lubec.

At that time the bulk of the herring were taken around Lubec. They have been depreciating for the last 20 years; that is including Treats Island. The fishing became poor as much as 10 years ago. In Lubec Narrows it was quite good this season. They began dredging in Lubec Narrows about 8 years ago, and they stopped about 2 years ago. Has laid a good deal of the decrease to the dredging going on there. Does not think the weirs to the east have taken the fish away at all. Herring began to

decrease before they began to put many weirs there. This sardine business was the means of their putting weirs there.

The herring come into Quoddy Bay direct from sea. They were most always large herring they caught down there in Quoddy Bay, what we call stringing herring, and when there are any herring in the river here they are most always smaller. Thinks some of those fish would come up through the Narrows to Cobscook River.

The majority of the fish which they get up Cobscook River come through Eastport way. They were smaller fish.

Herring first come into Quoddy Bay as a rule about September; then we get the biggest catch. In the spring sometimes we get a few in June. They are rather small. In the fall we do the best fishing in September and October.

Used to net herring backside of Eastport in Broad Cove and Deep Cove, but it has been as much as 10 or 12 years since they got any net herring there. There used to be lots of those large not herring stay around here, but of recent years they do not make an appearance. Some lay it to the lobster fishing. They say that the buoys and the

lines in the water have a tendency to scare the fish off into the deep water. Those herring that play in St. Andrews Bay; they set traps out through Letite Passage, and it has a tendency to scare them out.

Never did much seining around Lubec outside of seining the weirs.

The driving of herring has been carried on quite extensively this year in Quoddy Bay. They always drive in the fall when the dark nights come on. Has always heard since he has been fishing that kerosene drove the fish off; that is, fish will not play where there is kerosine on the water. That has always been the evidence of fishermen. The cotton and oil would not sink; it would float on top of the water. It would probably give off oil for sometime on the water. The weir men argue that the driving injures the weirs, but very evidently it did not do very much harm, for they caught fish in the weirs just the same.

The decrease of herring at Lubec began before the sardine factories started. The catch on Deer Island and the North Shore has always been large. Does not lay the scarcity of fish to there being so many weirs to the east.

In the spring of the year the small fish would go up to Pembroke to what we call South Bay, and they will remain there all summer until along in September, and then they will come out. This year there has been a school of fish up there, any amount of them. Got 9 hogsheads today of those small herring.

Thinks there is a chance of their being a spawning ground up the Cobscook River. Has seen fish with ripe spawn there.

Herring are less abundant than they used to be in our vicinity.

Does not think the fish need any protection; the sea is pretty large. Has always found herring pretty abundant all along the coast of the United States. Wherever the feed plays, there the herring get the most abundant. Has seen herring in one day enough to cover an area of 400 square miles. Would go to the masthead of the vessel looking for a school of mackerel, and you can see 10 miles each way, and has seen that area of water black with herring, playing. That was about 20 miles off Block Island. They were those large sea herring.

There is a place around the southern head of Grand Manan where it is well to protect them, and

at Wood Island. Has seen cables and anchors covered as big around almost as your leg with just clear herring spawn, where they do it in one night. There are spawning grounds for herring up the Cobscook River, but do not know any other places where they spawn. Up Cobscook River they spawn along in June.

The smallest herring that he ever saw with spawn in them were about 8 or 9 inches. They are generally in poor condition when they are ripe and full of spawn, but we would use them just the same. There is only one fish that is fat with the spawn in, and that is the shad.

The first he has noticed brit around here for some time is this fall. Find a few in the spring, but they have been most abundant this fall, about an inch long. Have noticed some wash ashore in the sea weed. Those very likely came from last years spawn. Saw them about September.

Has seen a small school of herring that would be too small to utilize for sardines, and in 3 weeks they would fatten up to that extent that they are large enough. Attributes the growth of herring to the feed. Take poor herring, and at certain seasons of the year they fatten up very fast. When

herring get up around these bays and Pembroke River they fatten up 6 weeks earlier than they will down the river, and they will grow quite large; and then they will remain about that size until they get poor.

When the herring are not on the shore here they are off in the Bay of Fundy in deeper water.

The smallest size herring we use for sardines is probably about 5 to 6 inches long. For mustards some have about 2 inch mesh, the herring about 9 or 10 inches long. For smoking 9 or 10 inches is about the smallest size also.

The spring run, when they first come in ~~are~~ poor, are smaller than the fall, but when they fatten up they are larger.

The spring herring generally come in around Lubec about the last of April and first of May. Sometimes have seen them come in the first of April. We generally get what we call the June school; and through July they are most always scarce; and then they come in again in August more abundant, and continue more or less abundant up into the winter. They generally cease being abundant in November. In 1891 they kept abundant up to Christmas. They vary in different years, but as a rule they

get scarcer after November. In January, February and March they are all pretty large herring; very few small ones. The large herring would be abundant. Once in a while might have quite a little catch. Most of the frozen herring were caught down the North Shore, between the North Shore and the Wolves.

Herring go in large, dense schools, he thinks, so that at times you might purse seine them; and then at certain seasons of the year they are scattered all over the water, and then they will gather together and play in large schools. They swim below the surface most of the time, only in spring tide, and shrimp are on top of the water, and they come up for them, and they usually play at the surface in the morning and evening at those times. We used to sink our gill-nets down about 4 to 6 fathoms in St. Andrews Bay.

Does not think herring go from Lubec Narrows into Quoddy Bay from this side.

CAPTAIN CHARLES LEWIS, EASTPORT, ME.--INTERVIEWED
BY RICHARD RATHBUN, NOVEMBER 29, 1893.

Of the sardine steamer Roessing.

Is 49 years old. Has been engaged in herring fishing since he was a child. Has been interested in the sardine business, especially collecting fish for sardines, during the past 13 years.

The herring weirs 20 to 30 years ago were mostly located in Lubec Narrows, and up Cobscook Bay as far as Goves Point. There were some weirs at Grand Manan. In the St. Croix River there was not more than one weir above Pleasant Point. There were only a few weirs used for catching herring for bait on Deer Island and the North Shore. There were not as many weirs around Campbello Island as there are at present.

Before the sardine business began the number of weirs on Deer Island had increased about 12 or 15, and on the North Shore about 15, there being only one small weir in Beaver Harbor.

The herring fishing in Lubec Narrows began to fail about 6 or 7 years before the sardine business, and the catch of fish for sardines could have had

nothing to do with this change in their abundance there. The Deer Island weirs, therefore, also could not have had any influence in this matter. He thinks that herring simply took a different turn; that the winds may have had a good deal to do with it; and also the distribution of food, etc.

It was not until the sardine business started that they began to increase so extensively the number of weirs on Deer Island and the North Shore; and since that time the main catch of fish has been in this region; that is on Deer Island and the North Shore.

The fishing at Lubec Narrows remained very poor until about 2 or 3 years ago, since which time it has been better, and has been the best of all the past year.

Taking the whole region from Cutler to Beaver Harbor, there has, as a whole, been a decided decrease in the abundance of herring, and he thinks there are not more than half as many herring now as there were 20 or 30 years ago. There are more weirs catching herring now, and the number taken is, of course, still very great. He thinks this decrease is due to over fishing, but the practice of driving also breaks up the schools and does much harm to

them.

The greatest harm results from the take of small fish which are obtained in immense numbers, and notwithstanding every precaution taken, a large number of them are wasted, not reaching the sardine factories at all, or in such poor condition as not to be fit for use.

The Canadian law requires that there shall be a gate in each weir, to be kept open during a certain period each week. The Canadian fishermen, however, do not conform to this regulation. The weirs fish by tides; nothing may be done for a fortnight, and then again, a weir may fish well for 6 or 8 days.

The difficulty in making any regulations satisfactory to the fishermen results from this irregularity in the fishing of the weirs; that any weir may have good success only during a few days, or a small part of a year, and it cannot always be told what part of a year it will fish well. During nearly all of the year the fishermen may not clear enough to pay for the stuff of which his weir is built. For that reason a close season would be unfavorably regarded by most of the fishermen. If

weirs fished all the time and made a regular catch there would be less objection to it.

Capt. Lewis is of the opinion that the so-called brit should not be caught in the spring during April, May and June. These brit measure mostly from $2\frac{1}{2}$ to $4\frac{1}{2}$ inches long and are no good for sardines. The smallest herring used for sardines are about 6 inches long, and that is even a very small fish. There would be no other way to prevent the capture of brit in the spring than to stop fishing entirely during that season, with weirs at least. During the past few years the spring fish have consisted of scarcely anything more than brit, with a few sardine herring mixed in them. They have been taken for the purpose of securing such sardines as might be in the weirs, and the brit have been largely destroyed in that manner.

The legal sardine season is from April 15th to December 15th. Very little, however, is done in the sardine business in the spring. They do not get enough fish to make it pay. Notwithstanding this fact, however, some of the sardine canneries are run at that time. As long as these sardine canneries are run in the spring these brit will be taken and destroyed.

The spawning grounds with which he is acquainted are those off the south head of Grand Manan, in St. Andrews Bay, where they spawn in July and August, and on the Perry shore, where they spawn in July. In St. Andrews Bay and along the Perry shore these fish have been taken during the spawning season for use as bait. He believes in a Canadian close season on the spawning grounds off Grand Manan, and thinks the same measures should be inaugurated in American waters, covering all the important spawning grounds. The large spawning fish do not remain long on the grounds after the spawning season is over.

The absence of large herring during the winter the past few years he thinks has not been due to over fishing, but that these same herring now inhabit some other parts of the Bay of Fundy at that time. To what this change may be due he has no idea. The gill-nets may have broken up the schools to a certain extent. Just as soon as these winter herring would be observed along the shore the number of gill-nets set in such places would be very great, and the schools would feel their influence at once, and this tends naturally to break up the winter schools. If they appeared at the beginning,

Sunday for instance, when there would be no fishing until Monday, the fish would remain in those places perhaps 2 or 3 days, but when seining began as soon as they touched the shore, the fish would soon disappear.

He thinks that the herring always remain in the Bay of Fundy--those which are caught on the adjacent shores--and that when they are not on the shores in the winter that they are off in deeper water in the Bay.

The spring run of herring used to be a large one, and contained large fish, which is not the case today. The summer run begins about July 1, but varies. Fish are, therefore, constantly running on to the shore from that time on through the whole of the summer and the fall. They work far in up the rivers, etc., and he is of the opinion that the latest fall fishery is with the schools which are going eastward from those rivers.

The herring work up the Bay of Fundy as far as Spencers Island, to his certain knowledge, and he thinks they go further than that.

In the fall when the bodies of herring come in they catch them at Lubec before they do at Deer

Island and the North Shore. Thinks that schools play in through the mouth of Lubec Narrows on the flood tide, and it is in that way that they reach the weir there. In Lubec Narrows they are caught mostly on the ebb tide, the majority moving with the ebb tide. Some, however, are taken on the flood tide.

During the summer he thinks that the first summer run strikes to the eastward first along Campbell, Deer Island and the North Shore, and they move up the Bay of Fundy to beyond St. John; and part of this school which strikes Deer Island and the North Shore goes westward and enters the region about Lubec, some parts going up the rivers, etc.

MR. C. C. FLAGG, EASTPORT, ME.--INTERVIEWED BY
RICHARD RATHBUN, NOVEMBER 29, 1893.

Of Eastport, but used to live on Campobello.
Is 67 years old, and has always lived at Campobello,
Welsh Pool. Has been catching herring all his life.
Has owned and worked several weirs.

The herring fishery has been carried on in
Passamaquoddy Bay, from Cutler to Beaver Harbor,
including Grand Manan, long before his time. Thinks
they commenced the weirs in the younger days of his
father. That would be about 80 years ago.

The weirs were then set in Friars Bay and
the Narrows. That continued to be the principal
location of the weirs ever since. They say that
was the place where the ^rfirst weir was built.

About 30 or 40 years ago the weirs were in Lu-
bec Narrows and all around here. As many around
Campobello as there are today. There are now more
in Harbor Dulute than there used to be. They did
not go up the Cobscook River very far, perhaps as
far as Goves Point. On the St. Croix River went up
as far as Clam Cove on the Deer Island side, and
went above Pleasant Point on the other side. On

On the North Shore were no weirs 30 or 40 years ago. There might have been a very few. They began building so many weirs there at the sardine time in 1878.

There has been a change in the habits of the fish. At Lubec Narrows and at Friars Bay they have been scarce for a number of years. About 10 years they have been scarce. At the same time they became more abundant at Deer Island and the North Shore. But those weirs were not built in those times. After they built them the herring came in there and we did not get them here. Does not think the eastern weirs catch the fish before they come in.

The use of the drag seine is an old fishery, but has never been carried on extensively around here.

The gill-net is an old fishery also. Thinks it was the oldest fishery; that and the driving. Thinks they began torching before they did gill-netting. There has been a great deal of gill-netting, and a large part of it stopped when the winter herring gave out. They did most of the gill-netting on the North Shore above and around Deer Island, and in St. Andrews Bay. In St. Andrews Bay they did not find them until late years. About Grand Manan there was a good deal of it, and a good

deal of it done now. Also around the Wolves. Used to be up Cobscook River, but not much now. Also the shore from Quoddy Head to Cutler. Have done some of late years in what they call Timothy Creek. The gill-net is used mostly in the fall and winter, and some in the spring, but not much. It is taken up in the fall and carried on through the winter if the fish continue. The North Shore fishery above here used to be a great thing in the winter for gill-netting. It is about 3 years since they failed. From $2\frac{1}{4}$ to $2\frac{1}{2}$ mesh used in gill nets. At the present time gill-nets are used very little since the winter fishing gave out, and the most of the fish now are taken by weirs.

They have done some driving and seining this fall, but not to amount to much. The driving has been carried on up the North Shore mostly, and up those rivers, Magagyuadvic, and at Lubec Narrows and thereabouts. Does not think the kerosine oil would injure them, but still it might. But it breaks up the herring and drives them off shore and scatters them. Driving harms the weirs. There is no law against it on this side that he knows of, but suppose there is a law against using kerosine oil. Thinks the oil in Lubec Narrows is an injury

to them. Those herring will be still in a body, and when they go over them with a light it is going to scatter them and frighten them very much.

Herring are not as abundant as they used to be; there are so many different ways of catching them now. Does not begin to be near as many. As we keep catching the small ones up every year, where are the big ones coming from?

It would be of no use to have any regulations unless it could be uniform on both sides. Thinks giving the fish a rest so many months in the year would benefit the fishery, say in April, May and June. Make a close season and not have them taken anywhere. It would be hard for bait, but they do not take herring very much in those months for bait, because they cannot get them.

They were abundant before the sardine factories.

Before the sardine business grew up we used herring for smoking, pickling and freezing. The smallest size for smoking would be about 4 or 5 inches long; used to make No. 1 smoked herring, and from that up to the largest size. For pickling used mostly larger herring. All the small fish that were taken were used for pomace, and also lar-

ger fish where there was a surplus of them.

But at that time we had so few weirs that they never took $1/8$ part of the fish they do now; that is, 30 years ago. All they would take would be smoking herring.

For sardines we used about 5 inch herring, and up to, say for mustards, would make a small medium herring for smoking.

Mr. Treat was the first man who commenced to press herring for oil and pomace. The weir on Treats Island has been worked during the last 3 or 4 years, but not this year. About the whole of the herring taken between Cutler and Beaver Harbor came to Lubec and Eastport. From Grand Manan probably half the herring they smoked came here, and a little comes fresh.

The making of pomace was carried on extensively a few years after Mr. Treat started it, and it has continued up to this day, but since the sardine factories have been extensive they have been using the refuse from the canneries. Do not catch herring for pomace now to amount to anything. It does not pay the fishermen to catch them for pomace. The amount of herring formerly taken for pomace was very small compared to the catch now.

The spawning grounds are at the south head of Grand Manan, and in all the bays about there and in Friars Bay, for he has caught them there with the spawn running out of them. Used to catch them there with spawn in them about all months of the year. They spawn every month in the year, but the heft of it is in May and June, and then along in September. We make two seasons of it for the larger fish. Has handled them all months in the year, and found spawn in them. There are spawning grounds in Machias and St. Andrews Bays on the Nova Scotia shore. Has bought them from the Nova Scotia shore to smoke. When they begin to spawn they are a small scaled herring not over 6 inches long. Has found any amount that size with spawn. During the heft of the spawning season the fish are rather poor. The spawning condition does not hurt them for use.

Thinks the law at Grand Manan is a wise law. Thinks it would be a just law where there are extensive grounds. The fish should have a rest part of the year.

Does not think they grow very fast. When the brit come in first in the spring, do not see much

difference in them. They are 2 or 3 inches long. Will find them in the spring first, and then we do not get so many through the summer, and then they come around in the fall again. The brit we find in the fall were spawned in September of the previous year. Thinks they are a year old. But still may be only 6 months. When they are 2 years old get to be about 5 or 6 inches.

There is a spring run of herring. We used to have a good run then. They used to begin in April. Those used to be abundant, but now they are running out entirely.

The next run begins about the first of July, and then comes a run along about the last of August or first of September. They seem to keep coming on up to this time. There used to be fish all winter. Has seined a weir in February and got them. These years they are getting played out in the winter months.

When they are not here they are playing off in the Bay of Fundy. Does not think they go out of the Bay. They lay all winter upon the North Shore.

When the herring come in they generally strike the shore in this river about as soon as anywhere.

They come in by Head Harbor. Will catch them first sometimes about Deer Island. Used to get them first at Cherry Island. Does not think many come through Lubec Narrows. They go to the westward from the Deer Island region. They come into this river from the east and go westward and work down through Lubec Narrows. Some come from the westward and play up to the eastward along the North Shore.

These different runs of fish contain all sizes from the small ones up to the big ones. One day they will come in in a body, and the next none at all. And sometimes they will come in in a body and stay for quite a while. They occur in schools so that they might be caught with the purse seines. They spawn just below the surface, but when they are schooling they come up to the surface. They come up sometimes when they are not feeding; cannot tell about them.

They are caught in the gill-nets at all depths, clear to the bottom, in say 20 fathoms of water. They fish off long distances down on the North Shore; clear off abreast of the Wolves.

Most of the weirs fish on the flood tide. The herring are playing inshore on the flood, and just as quick as it getshigh water they stop. Do not

run into the weirs so much on the ebb tide as they do on the flood. Sometimes they stem the tide in getting into the weirs, and sometimes they do not; it is just owing to where the weirs are located.

MACKEREL.

There used to be an abundance of mackerel in here years ago. They have been scarce as much as 20 years, but summer before last there were a good many here, but before that hardly any. They have been taken extensively ⁱⁿ the weirs and in the traps on the Nova Scotia side. Those traps have been there as much as 30 or more years. These mackerel come in inside of Grand Manan somewhere along in July, and they will stay until fall. They go clear to the head of the Bay, he thinks. They got a lot down there this spring about the last of May or first of June. Never knew of their purse seining up there. Thinks they come from the westward. Never knew of mackerel being taken in the winter with the herring, but in the fall might take a few.

LOBSTERS.

Lobsters have decreased greatly about here. There are more taken now than there used to be--20

years ago was not a man catching them except for his own use. Now there are several hundred men catching them. Thinks they will take all the way from one or two up to a dozen in each trap. Has never thought of any way of protecting lobsters. Does not think it is any use to make a law unless it is the same on both sides. Has seen lobsters around here where you could count thousands of them, and today you cannot find a lobster at those places. That is not over 20 years ago. Has seen them where you could heave out a hundred in ten minutes.

POLLOCK.

The large pollock for the past few years have been increasing here. They are not doing much fishing for pollock here, and all that fishing is confined between Cochrans Ledge and just beyond Head Harbor.